Final REPORT
An Analysis of the Market Value of the City of Newport's Rights-of-Way

November 26, 2008

Prepared for

City of Newport

By

Ed MacMullan and Ed Whitelaw

ECONorthwest
99 W. Tenth, Suite 400
Eugene, OR 97401
(541) 687-0051

I. Executive Summary

Charging a fee to occupy space in a city's right-of-way (ROW) makes good economic sense because it forces ROW users to take into account the ROW's value. Free access to a city's ROW would fail to impose market discipline on potential users to use only as much ROW as is appropriate compared to other potential uses of the ROW resource. Free access would thereby fail to allocate the ROW to its highest and best use. The closer a ROW fee approximates the relevant market price, the more likely the ROW will be used in an economically efficient manner, a fundamental criterion by which economists evaluate the performance of a market and overall social welfare.

The Georgia-Pacific (GP) facility in Toledo, Oregon processes wood pulp into linerboard and corrugated medium-weight containerboard. The plant also produces 11.5 million gallons per day (MGD) of wastewater. The wastewater travels through a pipeline from the Toledo plant to the eastern edge of Newport, where the pipeline splits into a northern and a southern pipeline. The northern pipeline travels through an easement that GP purchased in the late 1950s when the plant began production. The southern pipeline travels through a City-owned ROW and connects with the northern pipeline on the western edge of the city, just before the pipeline enters the Pacific Ocean.

Valuation experts calculate market rates for ROW occupancy using a number of techniques. The comparable-transaction method is one of the more commonly use procedures. Using this method, analysts gain insights into market rates by considering the fees and other details of franchise agreements that have characteristics in common with the valuation at issue. Our search for comparable, i.e., similar, transactions considered first the franchise fees that the City charges utility and telecommunication firms whose services occupy space in the City's ROW. Next, we took into account franchise fees that other municipalities charge for ROW occupancy. We also considered the fees that GP charged to transport wastewater produced by other firms through its pipelines.

Over eleven million gallons per day of wastewater flowing through Newport's ROW and entering the ocean off Newport's beaches poses risks to the City and its residents, businesses and tourists. GP's pipeline poses two types of risk to public and private entities: (1) risk that the pipeline will rupture and flood the surrounding area, and (2) risk that the outfall of wastewater at Nye Beach will shrink the City's tourism-supported economy.

We conduct two ROW valuations.[1] In the first, we calculate a market rate owed the City in exchange for the space occupied in the City's ROW by both pipelines. We assume for this valuation that GP does not have a valid easement for the northern pipeline. We calculate the market rate based in part on GP's estimated revenues earned on the sale of paper products

[1] Throughout this report, the terms 'we,' 'our,' and 'us' refer to the authors of this report, Ed MacMullan and Ed Whitelaw. For a description of their vitas go to ECONorthwest's web site, www.econw.com .

produced at its Toledo plan. This rate is one-tenth of one percent of the gross revenues that GP earns on the sale of paper products produced at its Toledo mill, or $323,000 per year.

In the second valuation, we calculate a market rate for space occupied by the southern pipeline only. We assume for this valuation that GP has a valid easement for the northern pipeline. GP currently uses both the north and south pipelines, but could operate using one or the other. That is, the Toledo plant could function using only the northern pipeline. Given that GP can avoid using the southern pipeline the valuation of the ROW access for this pipeline has less to do with the market value of the access and more to do with GP's costs of operation. The amount that the City can charge for the ROW space occupied by GP's southern pipeline is equivalent, or just less than, GP's costs of operating using only its northern pipeline. We assume that if the City charges more than GP's costs of operating using only the northern pipeline, that GP will abandon its southern pipeline and not pay the City's ROW fee. We calculate this rate at $50,000 to $75,000 per year.

II. Introduction

The City of Newport ("City"), through its City Attorney, contracted ECONorthwest ("ECO") to calculate the market value of the City's rights-of-way ("ROW") occupied by two pipelines owned by the Georgia-Pacific Corporation. The GP pipelines transport wastewater from its facility in Toledo, Oregon, to the Pacific Ocean. The single pipeline from Toledo splits into two pipelines on the eastern edge of the City. One pipeline takes a northern route through the City (known as the northern pipeline), the other a southern route (the southern pipeline). The pipelines connect again on the western edge of the City, just before GP's single pipeline enters the Pacific Ocean.

The City requested two valuations. In the first valuation, the City asked that we assume that GP has no valid easement through the City's ROW for its northern pipeline. We calculate the market value of the City's ROW occupied by both the northern and southern pipelines. In the second valuation, we assume that GP has a valid easement through the City's ROW for its northern pipeline. We calculate the market value of the City's ROW occupied by the southern pipeline.

In the remaining sections of this report, we explain the economic rational for why municipalities should charge market rates to occupy space in municipal ROWs (Section III), we describe the GP pipelines (Section IV), we describe this analysis and summarize the fees for occupying ROWs (Section V), we describe the risks GP's pipelines pose to the City and its residents, businesses and visitors and how such risks affect our valuations (Section VI), and we present the details of our valuation (Section VII).

III. Charging Fees to Access Municipal Rights-of-Way

Charging a fee to occupy space in a city's ROW makes good economic sense because it forces ROW users to take into account the ROW's value. The

occupation of a finite amount of physical space within the ROW displaces use of that same space by other facilities. Charging a fee helps ensure that the ROW will be used efficiently, that is, that the ROW won't be misused or wasted. Furthermore, the closer the fee approximates the relevant market price, the more likely the ROW will be used in an economically efficient manner, a fundamental criterion by which economists evaluate the performance of a market and overall social welfare.

Not charging a fee would treat the ROW as if it were a free good. To paraphrase Harvard economist Alvin Hansen,[2] there's no such thing as a free ROW. More important, free access to a city's ROW would fail to impose market discipline on potential users to use only as much ROW as is appropriate compared to other potential uses of the ROW resource. Free access would thereby fail to allocate the ROW to its highest and best use.

From an economics perspective, a city's ROW is a scarce resource. In contrast to so-called "free resources," scarce resources do not "exist in such large quantities that they need not be rationed out among those wishing to use them."[3] Indeed, congestion in a city's ROW—both above ground and below—illustrates that a city's ROW is scarce.

Economic scarcity, however, encompasses more than a constraint on physical capacity. A resource can be scarce in an economic sense even if it can accommodate all users at a given moment in an engineering sense. For example, if the use of a resource by one party imposes costs on other parties, then it is scarce in an economic sense. This conclusion holds whether the affected party is a city, another user of the ROW (a utility, a commuter, a truck driver or Georgia Pacific) or a resident (a home owner whose property is affected by utility facilities in the street).

It is because a city's ROW is scarce that charging for its use makes good economic sense. Economic texts describe a relationship between economic scarcity and economic cost, or opportunity cost:

> Just as scarcity implies the need for choice, so choice implies the existence of cost. ... A decision to have more of one thing requires a decision to have less of something else. It is this fact that makes the first decision costly.[4]

---

[2] http://fsearch-sandbox.jstor.org/news/2000.11/words.link.html

[3] Samuelson, Paul A. and William D. Nordhaus. 2001. *Economics*, 17th Edition. New York: McGraw-Hill. Page 765. For other authors expressing the same concept, see Hall, Robert E. and Marc Lieberman. 1998. *Microeconomics: Principles and Applications*. Cincinnati, OH: South-Western College Publishing. Page 483; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. *Microeconomics: Principles and Tools*, 2nd Edition. Upper Saddle River, NJ: Prentice Hall. Page 2; Parkin, Michael. 1998. *Microeconomics*, 4th Edition. Reading, MA: Addison-Wesley. Page 42; Tregarthen, Timothy and Libby Rittenberg. 2000. *Microeconomics*, 2nd Edition. New York: Worth Publishers. Pages 3-4.

[4] Lipsey, R., et al. 1990. *Microeconomics,* 9th Edition. New York: Harper & Row, Publishers. Page 4. For other authors expressing the same concept, see Nicholson, Walter. 2000. *Intermediate Microeconomics*, 8th Edition. Fort Worth, TX: The Dryden Press. Page 17; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. Cited previously. Page 24; Parkin,

> It [opportunity cost] concerns the true economic costs or consequence of making decisions in a world where goods are scarce.[5]

The history of cities throughout the world offers compelling illustrations of economic scarcity, opportunity costs, and efficiency in the development of ROW.[6] Examples of cities in which we have observed such scarcity and opportunity costs firsthand include Amsterdam, Berlin, London, Rome, Tokyo, Boston, New York, Chicago, San Francisco, Portland (Oregon), Seattle, Vancouver (B.C.), Lima (Peru), Nairobi (Kenya), and Colonia (Yap). This nearly universal pattern of municipal management of ROW has not arisen by chance or whim. It reflects real and substantial economic forces that create the so-called "joint-allocation problem," namely, allocating a single, scarce and therefore valuable resource among a number of competing demands.

Occupying space in the ROW precludes a city or others from using that same space now and in the future. That is, the three-dimensional space occupied by a given conduit obviously cannot be occupied by another conduit. Also, depending on the specifics of the use, the installation, the maintenance, and the replacement of any given facility in the ROW may create problems for and impose costs on a city and on other users of the ROW. The fact that a city regulates or otherwise controls access to its ROW so that users do not interfere with one another reflects the scarcity of the resource in an economic sense. For example, no one can take a backhoe and dig in a city's ROW without first obtaining permission and following city-mandated regulations that, as we understand, are designed in part to protect current users of the ROW, including the city.

Michael. 1993. *Macroeconomics*, 2nd Edition. Reading, MA: Addison-Wesley. Page 10; Tregarthen, Timothy and Libby Rittenberg. 2000. Cited previously. Page 5;

[5] Samuelson, Paul A. and William D. Nordhaus. 1992. *Economics,* 14th Edition. New York: McGraw-Hill. Page 131. For other authors expressing the same concept, see Hall, Robert E. and Marc Lieberman. 1998. Cited previously. Page 18; McConnell, Campbell R. and Stanley L. Brue. 1996. *Economics*, 13th Edition. New York: McGraw-Hill, Inc. Page 26; Parkin, Michael. 1998. Cited previously. Page 42; Tregarthen, Timothy and Libby Rittenberg. 2000. Cited previously. Page 5.

[6] For various historical descriptions of the development of streets and rights of way, see Abbott, Carl. 1983. *Portland: Planning, Politics, and Growth in a Twentieth-Century City*. Lincoln, NE: University of Nebraska Press; Baldwin, Peter C. 1999. *Domesticating the Street: The Reform of Public Space in Hartford, 1850-1930*. Columbus, OH: Ohio State University Press. Pages 201-203, 207-208; Barrett, Paul. 1983. *The Automobile and Urban Transit: The Formation of Public Policy in Chicago, 1900-1930*. Philadelphia, PA: Temple University Press. Pages 13-14, 49-50; Bridenbaugh, Carl. 1938. *Cities in the Wilderness: The First Century of Urban Life in America 1625-1742*. New York: Alfred A. Knopf. Pages 153-154, 159, 317; Hood, Clifton. 1993. *722 Miles: The Building of the Subways and How They Transformed New York*. New York: Simon & Schuster. Page 84; Pierce, Bessie Louise. 1937. *A History of Chicago: Volume I*. New York: University of Chicago Press. Pages 96, 336; Pierce, Bessie Louise. 1937. *A History of Chicago: Volume II*. New York: University of Chicago Press. Page 325; Quaife, Milo M. 1923. *Chicago's Highways Old and New: From Indian Trail to Motor Road*. Chicago, IL: D. F. Keller & Co. Pages 53-54, 60; Thwing, Anne Haven. 1920. *The Crooked and Narrow Streets of Boston: 1630-1822*. Boston: New England Historic Genealogical Society. Electronic Version; Whitehill, Walter Muir. 1968. *Boston: A Topographical History*, 2nd Edition. Cambridge, MA: The Belknap Press of Harvard University Press. Page 8.

As applied to a city's ROW, today's scarcity and the resulting opportunity costs will persist tomorrow. That is, today's scarcity manifests itself in those many locations in which the use of the ROW for one service inhibits the use of the ROW or other properties for other services by the same or other users. The negative effects may include increased excavation or construction costs, increased costs associated with design and planning, costs associated with loss-of-service attributed to construction accidents or other damage to services in the ROW, increased travel time for vehicular traffic on the ROW, and lost revenues for business whose customers are inconvenienced by ROW construction.

Like other real-estate assets, a city's ROW yields value to the users of the ROW. Like other real-estate owners, a city charges for use of its ROW. In an economy based on competition, producers and owners of goods and services with economic value typically do not give them away free. In economic markets, prices serve as signals that help society put its resources to efficient use.[7] Not charging for use of a city's ROW would treat it as if it were a free good with no economic value. "A true 'free good' is one which is not scarce... Examples of free goods are rare and perhaps becoming rarer still—sunshine in the Sahara Desert provides one example."[8]

Allocating public lands as manifested in the use of a ROW by first-come, first-serve or on some other non-market basis makes no economic sense, especially given the external costs imposed on third parties if ROW is over-consumed by any individual enterprise. This is easily prevented by charging a fee that reflects the ROW as a valuable asset or resource for which there are important and competing uses.

The concept that the use of public lands should be priced based on the value conveyed is written into Oregon and Federal regulations and guidelines. The Oregon Division of State Lands ("DSL"), the agency responsible for managing state lands including rivers and forests, requires that interested parties pay fair market value for using state property. For example, the rules for granting easements and temporary use permits on trust and non-trust land includes the following language:[9]

> [T]he State Land Board, through the Division [of State Lands], has the constitutional responsibility to manage all

[7] *See,* for example, Byrns, Ralph T. and Gerald W. Stone, Jr. 1992. *Economics,* 5th Edition. New York: HarperCollins. Page 71; Nicholson, Walter. 1998. *Microeconomic Theory*, 7th Edition. Fort Worth, TX: Dryden Press. Pages 514-515; Pindyck, Robert S. and Daniel L. Rubinfeld. 2000. *Microeconomics,* 5th Edition. Upper Saddle River, NJ: Prentice Hall. Page 590; Samuelson, Paul A. and William D. Nordhaus. 2001. Cited previously. Pages 27, 291.

[8] Pearce, David W. (ed). 1997. *The MIT Dictionary of Modern Economics*, 4th Edition. Cambridge: The MIT Press. Page 163.

[9] http://statelands.dsl.state.or.us. "AR 141-083-0800 through 141-083-0860 provide guidance for the issuing of easements for fiber optic and other cables on state-owned submerged and submersible land within the Territorial Sea. OAR 141-122-0010 through 141-122-0110 are the rules for granting easements and temporary use permits on Trust and Non-Trust Land." http://statelands.dsl.state.or.us/easements.htm

> land ... under its jurisdiction 'with the object of obtaining the greatest benefit for the people of this state, consistent with the conservation of this resources under sound techniques of land management.
>
> [T]he Division is required to manage its Trust Land to ensure that full market value is obtained from any use of this asset.
>
> The Division shall, prior to granting an easement, require an applicant ... to submit to the Division a compensatory payment for each individual crossing of state-owned land in the greater of:
>
> (a) One-hundred percent (100%) of the fair market value of the area requested for the easement;
>
> (b) Two-hundred and fifty dollars ($250); or
>
> (c) The highest comparative compensatory payment.

The DSL defines "fair market value" and "comparative compensatory payment" as:

> 'Fair Market Value' is the amount at which property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or sell, and both having reasonable knowledge of the relevant facts concerning the property.
>
> 'Comparative Compensatory Payment' is the amount of money paid for an easement to the owners of similar land adjacent to, or in the vicinity of Division-managed parcels.

A report by Springsted Incorporated[10] addresses the concept of the value of a municipality's ROW:

> In some cases, the demand [for ROW access] threatens to exceed the limited available space in the public right-of-way. Uncontrolled use of the public right-of-way for utility placement increases construction and installation costs of future users and reduces availability of limited space. The space above and beneath the surface of the public right-of-way is a limited resource which has value to public investor-owned utilities, as well as to other for-profit service providers.

[10] Springsted Incorporated. Public Right-of-Way Cost Recovery Plan Mid-America Regional Council. May 1998. Page III-2.

On this topic, the Public Utility Commission of Oregon notes:[11]

> The streets, alleys and highways of Oregon's municipalities, over and through which the access lines of the telecommunications utilities run, are real property with economic values. Private owners normally charge for the use of their property, and municipalities are either owners of municipal streets, alleys and highways or they hold them in trust for their citizens. Telecommunications utilities make exclusive use of these streets, alleys and highways, and there does not seem to be any reason why municipalities should not charge, and utilities pay, for that use.

The federal government also recognizes that a ROW has economic value and users of a ROW should pay for access. A report by the National Ocean Service on the fair market value for a permit to allow a fiber-optic cable to pass through national marine sanctuaries states:[12]

> According to the NMSA [National Marine Sanctuaries Act], the Secretary [of Commerce] may assess and collect a fee that includes the cost of issuing the permit, as well as monitoring and other costs incurred as a result of the permitted activity. In addition, the fee must include 'an amount which represents the fair market value of the use of the sanctuary resource.'

The appraisal literature[13] describes a number of methods of calculating the market value of the ROW. These methods include:

A. Analysts conduct land-based appraisals by calculating the value of a ROW based on the value of land adjacent to the ROW. This is sometimes referred to as the across-the-fence ("ATF") method. A variation on the ATF method acknowledges, that because the ROW provides a continuous corridor, ROW has a higher value than the disparate, unassembled adjacent parcels. This corridor value can exceed the ATF value by a factor of six.[14]

B. Analysts attempt to replicate free-market negotiations over the value of a ROW using the willing-buyer-and-willing-seller method. The seller considers his or her opportunity costs, or the value he or she could earn from

---

[11] Public Utility Commission of Oregon AR 218. Order No. 90-1031. June 29, 1990, Page 5.

[12] National Ocean Service. Final Report Fair Market Value Analysis For A Fiber Optic Cable Permit In National Marine Sanctuaries. National Marine Sanctuaries Program. December 2000. Page 6. ("National Ocean Service")

< http://www.apwa.net/documents/ResourceCenter/Fair_Market_Value_Analysis.pdf >

13 Ibid. Pages 7-13.

[14] Ibid. Page 9-10.

other uses of the land. The buyer considers the income-generating potential of the ROW and the costs of alternative routes.

C. The rational for valuation experts' use of the income-based method of valuation start with the fact that a variety of assets contribute to a firm's income or value. A ROW may be one of many income-generating assets from which a firm would expect to earn a reasonable return. The market value of the ROW is based on the return the asset generates for the firm.[15]

D. Analysts calculate market value based on sales of similar ROWs using the comparable-transactions method. While it's difficult finding comparable, i.e., similar, properties, past transactions can provide a general guide to values.

IV. The Georgia-Pacific Pipeline

The Georgia-Pacific facility in Toledo, Oregon processes wood pulp into linerboard and corrugated medium-weight containerboard.[16] The plant also produces 11.5 million gallons per day (MGD) of wastewater.[17] The wastewater travels through a pipeline from the Toledo plant to the eastern edge of Newport, where the pipeline splits into a northern and a southern pipeline. The northern pipeline travels through an easement that GP purchased in the late 1950s when the plant began production. The southern pipeline travels through a City-owned ROW and connects with the northern pipeline on the western edge of the city, just before the pipeline enters the Pacific Ocean.[18] The outfall of the northern pipeline is approximately 4,000 feet off shore from the Nye Beach section of Newport.[19] This outfall is approximately 2,200 feet north of the outfall of the wastewater pipeline from the City of Newport's water-treatment plant.[20]

[15] Nunn, Samuel and Rubleske, Joseph. Pricing the Use of Public Rights-of-Way. Public Works Management & Policy. 3:4, April 1999. Pages 304-316.

[16] http://www.gp.com/containerboard/products/index.html and http://www.gp.com/containerboard/mills/toledo/index.html

[17] Oregon Department of Environmental Quality (ODEQ), National Pollutant Discharge Elimination System, Permit Evaluation and Fact Sheet, Permittee Georgia Pacific West, Inc. Date Received February 6, 2001. Page 5.

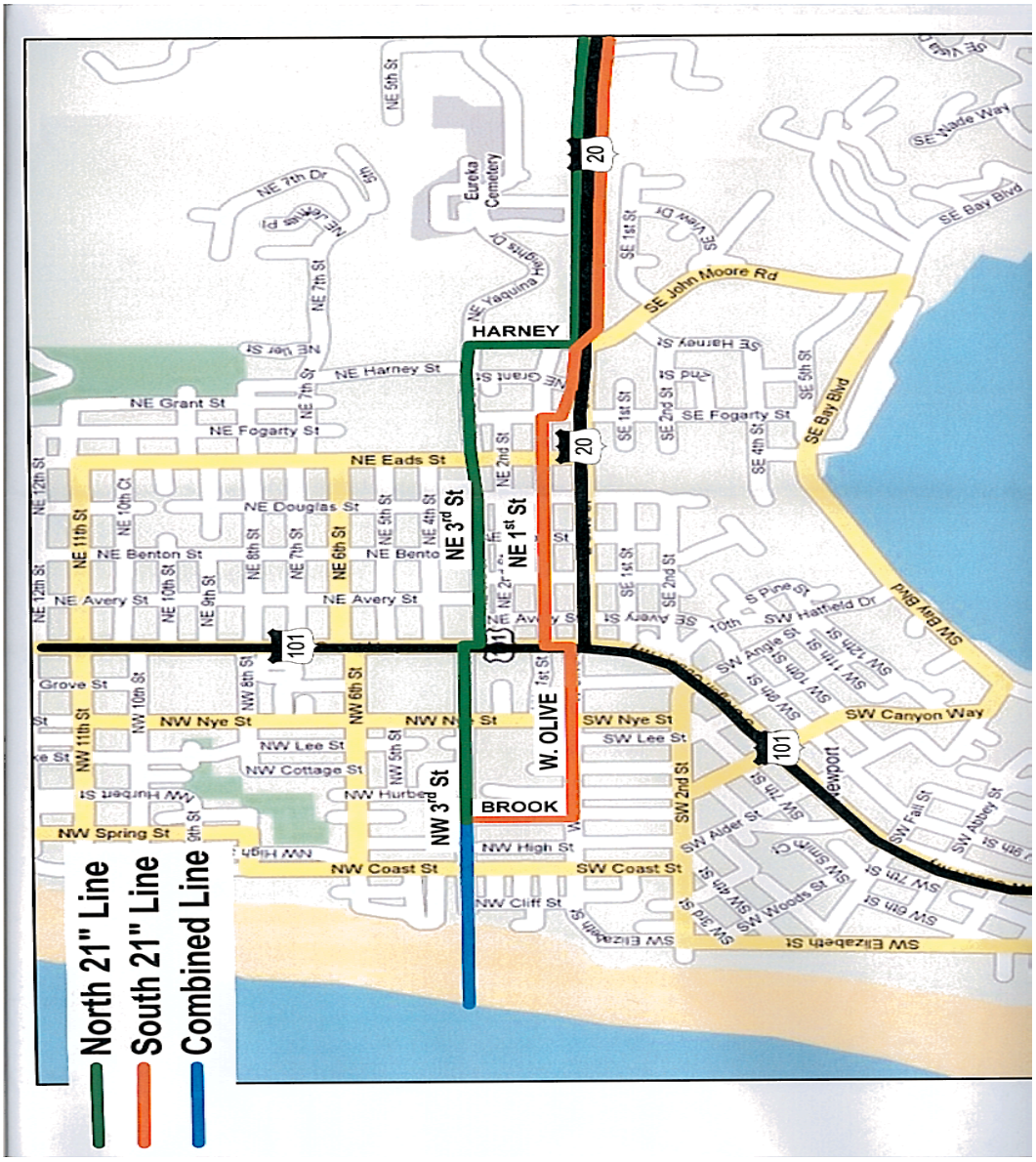
[18] Card, Steve. 2008. "Newport continues discussion of Georgia-Pacific agreement," Newport News-Times. Online edition posted June 20, 2008, http://www.newportnewstimes.com/articles/2008/06/02/news/news03.prt.

[19] ODEQ, p. 5; Minutes of City Council, City of Newport, May 19, 2008. Section "Consideration of an agreement with Georgia Pacific for use of rights-of-way for a treated effluent pipeline," no page number.

[20] ODEQ, p. 9; Conversation with Lee Ritzman, City Engineer, September 17, 2008.

Figure 1 illustrates the routes of the GP pipelines through Newport.

Figure 1: Map of Georgia-Pacific Wastewater Pipelines through Newport



Source: City of Newport

According to the Newport City Engineer, GP installed its first wastewater pipeline through Newport in 1957.[21] The steel pipe had a diameter of 16 inches. The pipe soon developed problems. In 1965 GP abandoned this pipeline in-place and installed a new 21-inch pipe made of steel encased in concrete. GP continues using this pipeline—the northern pipeline—today.[22] The northern pipeline occupies 5,550 linear feet of the City's ROW. According to GP representatives, the northern pipeline is older, deeper, and passes through more heavily developed areas of the city, which makes it more difficult and expensive to access and maintain compared with the southern pipeline.[23] GP installed a second 21-inch, steel-encased-in-concrete pipeline—the southern pipeline—in 1983. The southern pipeline occupies 4,888 feet of City ROW.[24]

According to GP representatives, the GP Toledo plant operates using both wastewater pipelines through Newport. Should a problem develop with one of the pipelines, or during scheduled or unscheduled maintenance on either of the pipelines, the plant can operate using a single pipeline. That is, both the north and south pipelines have sufficient capacity that the plant can operate using one of the pipelines.[25]

The pipeline from the Toledo mill travels over two hills between the mill and the eastern edge of Newport. A pump station at the bottom of each hill pressurizes the wastewater in the pipe and pumps the water up over the hill. Between the top of the hill just east of Newport and the pipe out fall in the Pacific Ocean, the wastewater follows a downhill grade and flows by gravity. GP recently upgraded the pressurized portions of the pipeline between the Toledo mill and the eastern edge of the City of Newport. GP has no plans to replace the wastewater pipelines that pass through Newport.[26]

As we understand, GP claims it purchased a valid and enforceable easement through the City's ROW for its northern pipeline. GP had a franchise agreement with the City of Newport that allowed GP's southern pipeline to occupy space in the City's ROW. That agreement lapsed and GP and the City have been negotiating a new franchise agreement for the past year. The franchise fee in the lapsed agreement was $250 per year.[27]

---

[21] Conversation with Lee Ritzman, City Engineer, September 17, 2008.

[22] Conversation with Lee Ritzman, City Engineer, City of Newport, September 17, 2008; Email from Gary Firestone, City Attorney, City of Newport, July 31, 2008.

[23] Conversation with Tom Picciano, Georgia Pacific Corp, Toledo, OR, October 31, 2008.

[24] Ritzman conversation; Firestone email of July 31, 2008.

[25] Conversation with Tom Picciano, Georgia Pacific Corp, Toledo, OR, October 31, 2008.

[26] Conversation with Tom Picciano, Georgia Pacific Corp, Toledo, OR, October 31, 2008; ODEQ Response to Public Comments on Georgia-Pacific's National Pollutant Discharge Elimination System Waste Discharge Permit. Section, "Pipeline Issues." (No date, no page number.)

[27] Minutes of City Council, City of Newport, May 19, 2008.

The wastewater exiting the pipeline creates a plume that's darker in color than the ocean water. According to GP, the concentration of lignin in the wastewater causes the plume's dark color.[28] As reported in the local newspaper, the plume is visible from the air, nearby headlands, hotel rooms in Newport and Nye Beach, and some beaches.[29] (See Figure 2 below.) Images of the Nye Beach area of Newport on Google Earth show the plume spreading from the outfall to the surf along the beach south of Nye Beach. (See Figure 3 below) In response to public concerns over the content of GP's wastewater, the Oregon Department of Environmental Quality (DEQ) is assessing the content for hazardous or harmful chemicals. DEQ will release their report later this year. DEQ previously approved the operation of the pipelines.[30]

Figure 2: Photo Image of Plume from Georgia-Pacific Pipeline

Source: Fossum, Jim. 2008. "DEQ heightens attention to G-P wastewater permit," Newport News-Times. Online edition posted May 2. http://www.newportnewstimes.com/articles/2008/05/02/news/news04.txt.

[28] Minutes of City Council, City of Newport, May 19, 2008; Tobias, Lori. 2008. "Newport residents petition DEQ about discharge from Georgia-Pacific plant," *The Oregonian*. Online edition posted July 5, http://www.oregonlive.com/printer.ssf?/base/news/1215226526277170.xml&coll=7; Fossum, Jim. 2008. "DEQ heightens attention to G-P wastewater permit," Newport News-Times. Online edition posted May 2. http://www.newportnewstimes.com/articles/2008/05/02/news/news04.txt.

[29] Fossum, Jim. 2008. "DEQ heightens attention to G-P wastewater permit," Newport News-Times. Online edition posted May 2. http://www.newportnewstimes.com/articles/2008/05/02/news/news04.txt.

[30] Tobias 2008.

Figure 3: Satellite Image of Georgia-Pacific Plume

Source: Google Earth image of Nye Beach, Newport, Oregon. Accessed October 3, 2008.

V. Comparable ROW Agreements

We conducted our search for comparable transactions considering first the franchise fees that the City charges utility and telecommunication firms whose services occupy space in the City's ROW. We also reviewed an easement agreement between GP and the City of Newport for City-utility services that cross GP land. Next, we reviewed information on franchise fees that other municipalities charge for ROW occupancy. We focused on fees charged for pipelines located in a municipal ROW. At one time GP accepted deliveries at its Toledo mill of wastewater produced by other firms and transported this waste through its pipelines. We describe these fees in the last subsection of this Section V.

A. City of Newport Franchise Fees and Comparables

The City has franchises with companies that provide utility and telecommunications services. The agreements stipulate that the companies pay the City a percentage of the gross revenue that the companies earn on services that pass through the City's ROW. Table 1 lists these companies and the fees they pay to access the City's ROW.

Table 1: City of Newport Franchise Fees

Franchisee	07-08 Annual Fee	% of Gross Revenue
Central Lincoln PUD - electric	$467,914	5%
Millennium – cable TV	$2,286	5%
Charter – cable TV	$103,000	5%
NW Natural – natural gas	$107,537	5%
Pioneer - telephone	$4,100	4%
Qwest - telephone	$60,591	4%

Source: City of Newport and Powell, C. Spencer. 2008. Appraisal Summary Report. Georgia-Pacific Effluent Pipeline Right of Way License. Page 55. August 14.

According to the City Attorney, industrial customers of the electrical utility pay an "Industrial Rate" of three-quarters of one percent rather than the standard 5 percent.[31]

The similarities and differences among the franchises in Table 1 influence the degree to which an individual franchise agreement helps inform the valuation at issue. For example, the utilities and companies in Table 1 provide services to Newport residents and businesses. Even though GP's Toledo mill employs workers who live in Newport, GP's pipeline provides no services directly to Newport residents. We expect that ROW access that provides services to municipal residents and businesses should cost less than ROW access that does not, all other factors held constant.

The companies listed in Table 1 have ubiquitous accesses throughout the City's ROW. GP's pipelines pass from the eastern to the western edge of the City. We would expect that ubiquitous access should pay higher ROW fees compared with pass-through access, all other factors held constant.

Another relevant factor is the extent to which the companies have feasible alternatives to providing their services using the City's ROW. We would expect that firms with alternatives to using the City's ROW would pay less than firms without such alternatives, other factors held constant. Presumably, the companies listed in Table 1 use the City's ROW because it is the least-cost or only feasible option of providing services and earning revenues. As we understand, GP recently replaced sections of the pipeline between the Toledo plant and the eastern edge of Newport. Given this investment, and the large volume of wastewater produced each day, we assume that GP has no other lower cost or feasible alternative to accessing the Pacific Ocean than passing through the City of Newport.

[31] Conversation with Gary Firestone, City Attorney, City of Newport, September 22, 2008.

We understand that GP granted the City of Newport an easement across GP land at no charge for utility services to a City pump facility on the Siletz River.[32] According to the City of Newport, the Siletz pump stations provides critically needed potable water to City residents and businesses. This is especially true during the dry summer months. Without this source, the City could not satisfy the demand for potable water.[33]

B. Fees Charged by Other Municipalities to Occupy Rights-of-Way

We searched first for information on franchise fees that municipalities charge in exchange for wastewater pipelines that occupy a municipality's ROW. In addition to agreements specific to the GP pipeline we found one other agreement. We then expanded our search for comparable franchise agreements to include pipelines of a comparable size to that of the GP pipelines, but which transport materials or services other than wastewater. Appendix A Franchise Fees lists the details of the franchise agreements we reviewed and the sources we consulted.

According to GP, none of the public or private land owners between the Toledo mill and the City of Newport charge a fee in exchange for allowing the wastewater pipeline to occupy space in their rights-of-way. These land owners include the City of Toledo, the Oregon Department of Transportation, and private land owners.[34]

The other franchise agreement we found that regulates a wastewater pipeline involves a pipeline that transports treated or processed wastewater. The City of Bel Aire, Kansas built and maintains a facility that processes and treats wastewater. Bel Aire sells the treated wastewater to customers in Wichita. The two towns have a franchise agreement whereby Bel Aire pays Wichita $2.50 per linear foot of pipeline that Bel Aire placed in Wichita's ROW, and 5 percent of the gross revenue that Bel Aire earns on the sale of treated wastewater that travels through the pipelines in Wichita's ROW.

Other franchise agreements we reviewed that involve pipelines of a size comparable to that in the current valuation include:

- City of Grand Prairie, Texas: The City charges $2.50 per linear foot for natural gas pipelines less than 24 inches in diameter. (2007 $s)

- City of Long Beach: The City charges telecom and natural gas companies $1.174 per linear foot per year for 20-inch pipelines. (2006 $s)

[32] Conversation with Gary Firestone, City of Newport City Attorney, November 4, 2008.

[33] Conversation with Gary Firestone, City of Newport City Attorney, November 4, 2008.

[34] Conversation with Tom Picciano, Georgia Pacific Corp., Toledo, Oregon, October 31, 2008.

- The California Public Utilities Code: the Code recommended charging $0.44 per linear foot per year for 20-inch pipelines. (1989 $s)

- City of Santa Clarita: the City charges Shell Oil Pipeline $0.66 per linear foot per year for a 20-inch pipeline. (2004 $s)

C. Fees Charged by Georgia Pacific to Transport Waste Produced Elsewhere

The fees that GP charged others to transport waste through the GP pipelines are relevant and comparable transactions to the valuation at issue. As we understand, GP has in the past accepted wastewater produced elsewhere and transported it through its pipelines. In one instance GP accepted and transported leachate produced in Marion County. GP charged a fee for such services.[35] Anecdotal information indicates that in one such transaction GP accepted and transported 13,000 gallons of wastewater for a fee of approximately $800,000.[36]

A fee of $800,000 per 13,000 gallons equates to a per-gallon fee of $61.54. We expect that GP would have accepted a lower per-gallon fee for larger volumes of wastewater.

VI. Risk Analysis

Eleven million gallons per day of wastewater flowing through Newport's ROW and entering the ocean 4,000 feet off Newport's beaches exposes the City and its residents, businesses, and tourists to risks. A construction accident that ruptures the pipeline could flood homes and business and disrupt transportation. Images of the wastewater plume on Google Earth and public knowledge of the wastewater outfall off Nye Beach may reduce tourism relative to a scenario with no pipeline, especially over the long term. The market rate that the City accepts as compensation in exchange for GP's pipelines occupying space in the City's ROW should reflect this risk to public and private entities.

Based on the information available to us at this time we conclude that GP's pipelines pose two types of risk to public and private entities: (1) risk that the pipeline will rupture and flood the surrounding area, and (2) risk that the outfall of wastewater off Nye Beach will reduce the economic benefits the City enjoys from tourism.

---

[35] Minutes of City Council, City of Newport, May 19, 2008; Card, Steve. 2008. "Georgia-Pacific pipeline issue draws crowd at Newport meeting," *Newport News-Times*. Online edition posted May 23. http://www.surfrider.org/oregon/NewsTimes2.htm.

[36] "Newport Chapter of Surfrider Foundation Comments on Draft License Agreement Allowing Use of Right of Way for Georgia Pacific Effluent Line." No date, no page number; Minutes of City Council, City of Newport, May 19, 2008.

A. Risk of Flooding from a Breach in the Pipeline

The volume of wastewater conveyed through the pipeline and the pipeline routes in the City influence the risk of flooding. The GP pipelines transport a significant amount of wastewater daily through the City's ROW. On average, the GP mill in Toledo produces 11.5 millions of gallons per day (MGD) of wastewater.[37] This is almost 10 times the 1.2 MGD of wastewater that residents and business in Newport produce in a day.[38]

The pipelines pass near and under residential and commercial areas of the City. A construction accident or other damage to the pipeline could flood these homes and businesses. A flood could also jeopardize transportation. For example, both pipelines cross highway 101, which is the primary north-south transportation route through the City. Both pipelines also parallel a section of highway 20, which is the City's main east-west transportation route and connects Newport to Corvallis and the Willamette Valley. As we understand, to date, no pipeline ruptures have occurred and no residences, businesses or transportation routes have been flooded by the wastewater pipeline.

We understand that a new franchise agreement with GP would hold the City harmless in the event of a spill or other pipeline-related catastrophe. Legal indemnification, however, cannot prevent or fully compensate for disruptions to City activities or harm to residents, businesses or the City's tourism economy. For example, a pipeline rupture imposes opportunity costs on the City because it would divert City staff, services, and equipment away from serving City residents and businesses. Should a spill occur, City fire and police likely would respond. City administrators would become involved in spill response and cleanup. A significant pipeline breach with flooding could stop a nontrivial amount of the normal City business while City staff focus on protecting residents and business and cleaning up after the incident.

The City could also incur significant costs enforcing legal indemnification, and trials and appeals could delay compensation for some time. For example, the EXXON Valdez oil spill occurred in 1989. Even though a jury found EXXON liable for damages to Alaska's salmon harvests in a trial held a few years after the spill, EXXON appealed the jury's verdict and has yet to pay these damages. Litigation is expensive, time consuming, and would divert City administrators from their normal activities.

In addition to uncompensated opportunity costs and uncertainty regarding the timing and amount of compensation in the event of a

[37] Oregon Department of Environmental Quality (ODEQ), National Pollutant Discharge Elimination System, Permit Evaluation and Fact Sheet, Permittee Georgia Pacific West, Inc. Date Received February 6, 2001. Page 5.

[38] Conversation with the manager of Newport's wastewater treatment plant, September 12, 2008.

pipeline spill, legal indemnification provides no protection from the risks to Newport's tourism economy.

B. Risks to Newport's Tourism Economy

The GP pipelines create two type of risks to Newport's tourism economy. The first is that a pipeline rupture, spill and flooding would disrupt tourist visits and spending. As we understand, one such spill occurred that flooded a hotels parking lot. The spill was minor and did not cause extensive damage.[39] A larger spill could jeopardize Newport's economy, at least in the short-run. Depending on the severity of the incident, perceptions that Newport remains tainted by a large spill might persist for some time after a spill. Such a perception could reduce tourist visits beyond the time it takes to repair the pipeline and cleanup a spill.

The second risk is a persistent risk or risk over the long-run that public knowledge of the pipeline's outfall offshore will create a perception of taint, which reduces the attractiveness of Newport as a tourist and retirement destination. The risk to Newport's economy is that spending by tourists and retirees over the long-run would be less than it otherwise would be if the pipeline's outfall, and the related perception of taint, were not associated with Newport. This risk stems from the *perception* of taint and not from the actual toxicity of the wastewater.

Newport's economy today differs markedly from its economy 50 years ago when GP installed its first pipeline. The economic drivers then were logging and commercial fishing. Today, commercial fishing and logging remain, though their economic significance has declined dramatically relative to their importance five decades ago. New drivers of the City's economy include tourism, vacation rentals and second homes, and relocating retirees.

Just as Newport's economy has changed over the proceeding 50 years, so have the risks to the economy from the GP pipelines. A spill during the early years of the pipeline's operation would have likely had little impact on the City's logging or fishing interests.[40] Today, however, coastal tourism and tourism-related economies depend on tourists' perceptions of the quality of ocean water, the cleanliness of beaches and the overall attractiveness of the environment.[41] A spill now, or public perceptions

[39] Conversation with Ken Payton, Sylvia Beach Hotel, November 6, 2008.

[40] None of the information we have reviewed to date indicates that the pipeline outfall or volume of wastewater negatively affected Newport's commercial fishing industry then or now.

[41] Martin, N. and Pendleton, L. 1999. *Perceptions of Environmental Quality and Risk in Beach Recreation*. Research Paper. ; National Oceanic and Atmospheric Administration (NOAA). 1998. *1998 Year of the Ocean Costal Tourism and Recreation*.; Freeman, A.M. 1995. "The Benefits of Water Quality Improvements for 0arine Recreation: A Review of the Empirical Evidence," *Marine Resource Economics*. Vol. 10: pp. 385-406.; Hilger, J. and Hanemann, M. 2006. *Heterogeneous Preferences for Water Quality: A Finite Mixture Model of Beach Recreation in Southern California.* California Sea Grant College Program. Research completion Reports. University of California, San Diego. Paper Econ06_01.; Dorfman, M. and Rosselot, K.S. 2008. *Testing the Waters A Guide to Water Quality at Vacation Beaches, Eighteenth Edition*. Natural Resources Defense Council. August.

that the pipeline's outfall taints Newport as a tourist and retiree destination, could hurt the City's economy.

The popular press and academic journals describe the negative impacts of pollution, taint, and perceptions of taint on coastal and tourism-based economies.[42] For example, in 1997, medical waste washed ashore on New Jersey beaches. Tourists avoided the beaches and area business lost over $800 million.[43] More recently, the debate over drilling for oil off Florida's coast highlights concerns by those in the state's tourism industry that such drilling and related benefits will be at the expense of the state's tourism industry. Tourism officials and industry representatives worry that drilling offshore will eventually lead to polluted beaches and a decline in tourism expenditures. An article in USA Today described these concerns:

> "Hotel and business owners in Key West are closely following the offshore drilling debate and are heavily opposed to expanded drilling, said Harold Wheeler, director of the Monroe County Tourist Development Council."
>
> "There could be a financial gain to the state, but what is the risk of a spill, a cleanup and the negative economic impact of that?" he asked."
>
> "[A representative of Gulf Coast Environmental Defense notes] Tourism in Florida is a $90 million to $100 million a day industry and tourism is all about perception, perception of sugary white beaches, emerald waters and a clean environment …"[44]

Another example comes from a study that calculated the loss to the local economy of closing one beach on Lake Michigan because of beach pollution at between $8,000 and $37,000 per day.[45] A study of the economic benefits of improving water quality in Chesapeake Bay from unacceptable to acceptable for swimming calculated that area businesses would benefit from such an improvement by $89 million.[46]

According to the Newport Chamber of Commerce, approximately 2 million tourists visited Newport in 2007.[47] Newport competes for these

---

[42] Ibid.

[43] NOAA 1998.

[44] Nelson, Melissa. 2008. "Florida's dilemma: Can offshore drilling and tourism coexist?" USA Today Travel News October 2. http://www.usatoday.com/travel/news/2008-10-02-florida-drilling_N.htm accessed October 4, 2008.

[45] Dorfman and Rosselot 2008.

[46] Freeman 1995.

[47] Conversation with Newport Chamber of Commerce, August 20, 2008.

tourist with other coastal communities and tourist destinations in Oregon. A pipeline spill or the perception that GP wastewater taints area beaches could reduce Newport competitiveness for tourists and their expenditures.

The area most at risk may be the Nye Beach section of Newport. The pipeline outfall is 4,000 feet off Nye Beach. Starting in 2001 the City began redeveloping the area using urban-renewal funds. Much of this investment supports the area's tourism economy. An article published in the Salem News describes the redevelopment and growth of the area's tourism economy.

> "Newport and its Nye Beach district are experiencing a bit of a construction and remodeling boom, with many of the historic cottages going under the carpenter's knife and a spurt of commercial construction as well."
>
> "Much of the activity is centered in atmospheric Nye Beach … all of it expected to boost the local tourism business in numerous ways."
>
> …
>
> "Things are seriously heating up in the Nye Beach area, especially since the injection of urban renewal dollars used for the renovation of this historic neighborhood. That happened in 2001. Since that time, Nye Beach has grown considerably with many more commercial projects planned to offer additional retail and lodging options."
>
> …
>
> "To Lorna Davis, Interim Executive Director of the Newport Chamber of Commerce, all this bodes well for the town's future."
>
> "'This exciting flurry of residential and commercial construction which we're currently experiencing is a healthy sign of Newport's future,' Davis said. 'Residents and visitors alike will benefit from the many diverse projects which are planned, underway, and recently completed."[48]

The pipeline's outfall off Nye Beach poses a risk to the area's tourism-related redevelopment. According to at least some in area's tourism industry, however, there is little evidence that the pipeline influences

[48] Salem-News. 2006. "Construction and Remodeling Boom in Newport," Salem-News. July 13. http://salem-news.com/articles/july132006/newport_update_71306.php .

tourists' choice of destination or negatively affects tourism spending. Interviews with managers and employees of tourist hotels[49] in Nye Beach found the following:

- The wastewater plume is visible during sunny days from rooms on the upper floors of the hotels. During cloudy days the plume is not as noticeable.

- Very few hotel guests mention or ask about the plume. One hotel desk clerk noted that in her seventeen years working the front desk of the hotel approximately ten visitors asked about the plume.

- The reaction of visitors to the plume is more curious than alarmed. No visitors have checked out of a hotel because they noticed the plume.

The closing of area beaches due to the presence of harmful bacteria is considered a more serious threat to the area's tourism economy than the wastewater pipeline. Hotel employees note that tourists frequently ask about the signs notifying beach closures and recommending that visitors avoid contact with the water.[50] In 2007, the ocean water off Nye Beach had the highest number of incidents of bacterial levels exceeding allowable limits in the state. That year, exceedances off Nye Beach accounted for 28 percent of the total number of exceedances for all Oregon beaches. As a result, Nye Beach is monitored at least twice a month and 114 samples were taken in 2007.[51]

Hotel operators also note that the pipeline has operated for over fifty years, during which time Newport's tourism economy grew. They also note that tourists that want to avoid the areas around the pipeline outfall may still spend time and money in other areas of Newport, e.g., the bay front.[52]

Without a rigorous study of the impacts of the pipeline's operation on tourism expenditures—which is beyond the scope and budget for this analysis—we cannot quantify this impact. Anecdotal evidence, such as that reported by hotel operators, indicates little to no impact on tourism from the pipeline's operation. Such observations, however, may not

[49] We contacted employees of the Hallmark Resort, the Whaler Hotel, Shilo Inn, and the Sylvia Beach Hotel by phone on November 6, 2008.

[50] Conversations with employees of the Hallmark Resort, the Whaler Hotel, Shilo Inn, and the Sylvia Beach Hotel, November 6, 2008.

[51] Dorfman, M. and K.S. Rosselot. 2008. *Testing the Waters: A Guide to Water Quality at Vacation Beaches, 18th* ed. Natural Resources Defense Council.

[52] Conversations with employees of the Hallmark Resort, the Whaler Hotel, Shilo Inn, and the Sylvia Beach Hotel, November 6, 2008.

describe the full extent of the pipeline's effect on tourism. For example, they do not capture the sentiment of tourist who avoid the area because of the pipeline. To the extent that potential visitors know about the location of the pipeline outfall and perceive the area's beaches tainted by wastewater, they may avoid the area and spend their tourism dollars elsewhere. The same taint effect may also reduce the number of retirees that relocate to the area.

VII. Right-of-Way Valuations

As requested by the City Attorney, we conducted two ROW valuations. In the first, we calculate a market rate owed the City in exchange for the space occupied in the City's ROW by both the northern and southern pipelines. We assume in this valuation that GP does not have a valid easement for the northern pipeline. In the second valuation, we calculate a market rate for space occupied by the southern pipeline only. We assume in this case that GP has a valid easement for the northern pipeline.

A. Valuing the Rights-of-Way Occupied by GP's Northern and Southern Pipelines

The City Attorney asked that we assume that GP does not have a valid easement for its northern pipeline for the purposes of this valuation. We calculate a market rate that GP owes the City in exchange for the space occupied in the City's ROW by both its northern and southern pipelines. We note, however, that because, as we understand, GP *does* have a valid easement, this calculation is for illustrative purposes only. That is, we do not expect that the rate calculated in this section will be part of the negotiations between GP and the City of Newport regarding the franchise fee for the southern pipeline.

We calculate the market rate based on a percent of the gross revenue that GP earns on the sale of paper products produced at its Toledo mill. Calculating market rates based on gross revenues is a common and accepted method of calculating ROW fees. Also, Newport charges utility and telecommunication firms a franchise fee based on a percentage of the gross revenues that the firms earn on the goods and services that pass through the City's ROW.

We assume that operating GP's Toledo mill, and the revenues that GP earns on the sale of goods produced at this mill, depend on disposing of wastewater via its northern and southern pipelines. That is, we assume that GP has no feasible alternative of disposing of wastewater other than the pipelines that occupy space in the City's ROW.

We calculate the market rate GP owes the City in exchange for the space that its northern and southern pipelines occupy in the City's ROW at one-tenth of one percent of the gross revenues that GP earns on the sale of paper products produced at its Toledo mill. The factors and assumptions relevant to this calculation include:

- Newport charges utilities that transport large volumes of goods through its ROW a franchise fee of three-quarters of one percent of the gross revenue that the utilities earn on the sale of these goods. Eleven million gallons of wastewater per day qualifies as a large volume.

- These utilities have ubiquitous access throughout the City's ROW. The GP pipelines have pass-through access, which occupies a limited amount of the City's ROW. Ubiquitous access occupies more space and so should pay a higher fee relative to pass-through access that occupies less space.

- The utilities that pay franchise fees provide services to City residents and businesses and earn revenues on these services. While GP employs Newport residents, the wastewater pipeline provides no direct services to Newport or its residents, and GP earns no revenue from Newport residents or businesses from the wastewater pipeline. As such, the gross-revenue fee on the wastewater pipeline should be less than that paid by the utilities.

- A fee based on a percentage of gross revenue, rather than a fee per linear foot of pipeline, more appropriately accounts for the risks to Newport's tourism economy over the long run.

- The City of Toledo, ODOT and the private land owners along the pipeline route that do not charge GP a fee also do not face the risks that the pipelines' outfall poses to Newport's tourism economy.

- GP granted the City of Newport at no cost an easement for utility services to a city pump facility that transports much needed potable water.

- The pipelines are critical to GP's Toledo mill. In the same way that the mill could not operate without labor, raw materials, or power, it cannot operate without the pipelines. Paying one-tenth of one percent of gross revenue for a critical input such as pipeline access is less than that paid for other critical inputs.[53]

Our calculation of the market rate is straightforward:

[53] For example, researchers in the pulp and paper industry estimate that, on average, labor accounts for 27 percent of a mill's production costs and energy 13 percent. McCarthy, P. and Urmanbetova, A. 2006. *Production and Cost in the Pulp and Paper Industry: A Translog Cost Function Analysis*. Center for Paper Business and Industry Studies Working Paper. December.

- GP's Toledo mill produces 2,300 dry tons per day of paper products.[54]

- The Toledo mill produces linerboard and corrugating medium paper.[55]

- The market price for 42-lb kraft linerboard is $555/ton, and the price for corrugating medium is $540/ton.[56] We assume a price of $540 per ton for all paper (linerboard and corrugating medium) produced at the Toledo mill.

- We assume a production schedule of five days per week, fifty-two weeks per year, or 260 production days per year.

- 2,300 tons/day * 260 days/year * $540/ton = $323 million/year in gross revenue.[57]

- One-tenth of one percent of $323 million = $323,000.

Given the assumptions described above, we calculate a market rate for the space that GP's northern and southern pipelines occupy in the City's ROW at $323,000 per year.

B. Valuing the Right-of-Way Occupied by GP's Southern Pipeline

In this valuation scenario we assume that GP has a valid and enforceable easement for its northern pipeline. GP currently uses both the north and south pipelines, but could operate using one or the other. That is, the Toledo plant could function using only the northern pipeline. Given that GP can avoid using the southern pipeline the valuation of the ROW access for this pipeline has less to do with the market value of the access and more to do with GP's costs of operation. The amount that the City can charge for the ROW space occupied by GP's southern pipeline is equivalent, or just less than, GP's costs of operating using only its northern pipeline. We assume that if the City charges more than GP's

[54] Georgia-Pacific. 2008. Discharge Monitoring Report NPDES Permit OR-000134-1. Wastewater Discharge Report – Outfall 003 for the Month of April; Oregon DEQ. National Pollutant Discharge Elimination System. Permit Evaluation and Fact Sheet. Date received February 6, 2001. Page 2.

[55] Oregon DEQ. National Pollutant Discharge Elimination System. Permit Evaluation and Fact Sheet. Date received February 6, 2001. Page 2.

[56] Stundza, T. 2008. "Linerboard Price isn't Sticking, Yet," *Purchasing.com*. Reed Business Information. July. http://www.purchasing.com/article/CA6581175.html ; Stundza, T. 2008. "Linerboard Prices Hike Flops," Purchasing.com. Reed Business Information. March. http://www.purchasing.com/article/CA6545055.html?industryid=48405&nid=2863 .

[57] We approximated GP's gross revenue based on average production amounts, an estimated production schedule and one observation of market prices. GP's financial records will have the most accurate assessment of the gross revenue earned on the sale of products produced a its Toledo mill.

costs of operating using only the northern pipeline, that GP will abandon its southern pipeline and not pay the City's ROW fee.

No data were available to us on GP's costs of operating the pipelines or how these costs would change should GP transport wastewater using only the northern pipeline. As we understand from the City's Engineer, wastewater pipelines such as GP's that are constructed of steel encased in concrete generally have low maintenance costs.[58] We expect that given the age differences between the pipelines—the southern pipeline dates to 1983, the northern pipeline to 1965—that GP's maintenance costs will increase if it uses the older, northern pipeline exclusively. GP staff note that because the northern pipeline is deeper than the southern pipeline and because the northern route passes through more intensely developed areas of the city, that maintaining the northern pipeline is more difficult and more costly relative to the costs of operating the southern pipeline.[59]

Using only the northern pipeline would create other maintenance and scheduling issues that could increase GP's costs. For example, GP could schedule maintenance on the northern pipeline only during times when the Toledo mill is shut down. Currently GP can work on one pipeline while rerouting wastewater through the other without shutting down the mill. Also, the mill's operation would be vulnerable to pipeline accidents or unscheduled emergency maintenance.

For illustrative purposes we assume that for the reasons described in the paragraphs above that GP's maintenance costs double by using only the northern pipeline. Maintenance costs reported in the literature for different types of pipelines range from five to ten percent of the cost of materials and pipeline construction.[60] Given the City Engineer's suggestion that the wastewater pipes have low maintenance costs, we assume that GP's maintenance costs increase from five to ten percent of the cost of the pipeline itself.

We consulted the City Engineer regarding pipeline-construction costs in the Newport area. He concluded that a per-linear-foot cost of $240 reflects current market conditions. This cost accounts for the type of pipe (steel encased in concrete), the 21-inch diameter, and the challenges of installing such a pipe in a ROW that already contains pipes that transport municipal wastewater and water services, other utilities (e.g., natural gas) and telecommunication lines.[61]

---

[58] Conversation with Lee Ritzman, City Engineer, City of Newport, November 5, 2008.

[59] Conversation with Tom Picciano, Georgia Pacific Corp., Toledo, Oregon, October 31, 2008.

[60] Texas Water Development Board. 2005. *Region H Water Management Strategy Analysis Technical Memo*. January 7; 1992. H.K Abdel Aal, et al. 1992. *Petroleum Economics and Engineering*. CRC Press. 440 pages; Magplane Technologies (no date) Pipeline Transport Systems, http://capsu.org/library/documents/0014.html.

[61] Conversation with Lee Ritzman, City Engineer, City of Newport, September 24, 2008.

Based on this information we calculate the cost of GP's northern pipeline at, $240/foot * 5,550 feet, or $1,332,000 in 2008 dollars. Five percent of $1,332,000 is $66,600, and ten percent is $133,200. Increasing maintenance costs from five to ten percent of the pipeline cost is a net increase of $66,600.

Using these results as a guide, we estimate that if GP used the northern pipeline exclusively that its operations and maintenance costs would increase by $50,000 to $75,000 per year. If the City charges a ROW fee for the southern pipeline above this amount, the probability increases that GP will abandon the southern pipeline and use the northern pipeline exclusively.